



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,432	06/11/2002	Evgeny Invievich Givargizov	GIVAR7.001 APC	3496

20995 7590 10/24/2003

Knobbe Martens Olson & Bear LLP
2040 Main Street
Fourteenth Floor
Irvine, CA 92614

EXAMINER

NGUYEN, KIET TUAN

ART UNIT	PAPER NUMBER
----------	--------------

2881

DATE MAILED: 10/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/980,432	GIVARGIZOV ET AL.	
	Examiner	Art Unit	
	K. Nguyen	2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on August 15, 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 75-145 is/are pending in the application.
- 4a) Of the above claim(s) 104-145 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 75-83, 87 and 88 is/are allowed.
- 6) ☒ Claim(s) 84-86, 89, 91, 93 and 101 is/are rejected.
- 7) ☒ Claim(s) 84-86, 90, 92 and 94-103 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Remarks

Applicant is requested to provide the prior art as indicated in the form PTO-1449 filed on March 05, 2002. Because they have been lost.

Applicant's election without traverse of Group I including claims 75-103 filed on August 15, 2003 is acknowledged. Applicant is also requested to cancel the non-elected claims 104-145.

Objected Informalities

The disclosure is objected to because of the following informalities:

In The Specification

Page 10, line 3, "Fig. 2" should be -- Figs. 2 (a-c) --.

Page 10, line 10, "Fig. 5" should be -- Figs. 5 (a-b) --.

Page 10, line 17, "Fig. 8" should be -- Figs. 8 (a-b) --.

Page 11, line 9, "Fig. 13" should be -- Figs. 13 (a-b) --.

Page 11, line 23, "Fig. 17" should be -- Figs. 17 (a-b) --.

Page 12, line 21, "Fig. 23" should be -- Figs. 23 (a-c) --.

Appropriate correction is required.

Rejection Under 35 U.S.C. 112, Second Paragraph

Claims 84-86 and 101 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 84 recites the limitation "the tip material" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 86 is indefinite for reciting the limitation "chemical function groups" in line 1.

What are the chemical function groups?

Claim 103 is indefinite for reciting the limitation "chemical function groups" in line 1.

What are the chemical function groups?

Rejection Under 35 U.S.C. 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 89, 91 and 93 are rejected under 35 U.S.C. 102(b) as being anticipated by Derraa (6,017,772).

Derraa (6,017,772) discloses, in figs. 1-8, a field emission array device. The device includes a single crystalline tip 18 (see col. 5, lines 19-43, and col. 6, lines 15-18) disposed on a plane surface of a substrate 12 which serves as a basis for at least two tips 18.

Claims 75-83 and 87-88 are allowed.

Claims 84-86 and 101 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 90, 92, 94-100 and 102-103 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for indicating allowable subject matters

The prior art fails to disclose a tip structure for an electron emissive device or a scanning probe device, which includes a single crystalline tip epitaxial to a single crystalline substrate and

having an axis forming a predetermined angle with respect to a vertical axis of the substrate as recited in claims 75, 90 and 92; an axis of a subsequent link forming a predetermined angle with respect to an axis of a previous link as recited in claim 94; at least one tip having on a top a particle which is coated by a film of a chemical element as recited in claim 99; a monodomenic magnetic particle having a conical shape contactly placed on a flat top of a non-magnetic tip as recited in claim 102; or a flat top of an electroconductive tip perpendicular to an axis of the tip and coated by a dielectric film, and a p-n junction in an upper part of the tip parallel and close to the flat top as recited in claim 103.


The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- 1) Gallagher discloses a scanning probe device having a crystalline or molecular nanostructure tip on a substrate;
- 2) Hirano et al. discloses a cold electron emitting device having a single crystalline tip on a substrate;
- 3) Hobart et al. disclose a field emission cathodes having a single crystalline tips on a substrate;
- 4) Givargizov et al. disclose a AFM/STM device having a single crystalline tip on a substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner *Kiet T. Nguyen* whose telephone number is (703) 308-4855.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0956. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

K.T.N/Primary
10/15/03


KIET T. NGUYEN
PRIMARY EXAMINER